

Minutes of X3T11 HIPPI SWG, and HNF - Technical Committee (TC)
August 6, 1996
Honolulu, Hawaii

1. Opening remarks and introductions

The Chairman, Don Tolmie of Los Alamos National Laboratory, opened the Technical Committee portion of the HNF meeting and thanked Paul Boulay and Hitachi for hosting this meeting. This group is constituted as both the HIPPI special working group (SWG) under X3T11, and the HIPPI Networking Forum (HNF) - Technical Committee (TC).

Don lead a round of introductions. The list of attendees is at the end of these minutes.

2. Review / modify the draft agenda

Draft agendas were distributed via e-mail before the meeting for both the HIPPI-6400 specific portion, and the HIPPI general portion. Hard copies were distributed at the meeting. No changes were made at the meeting. These minutes reflect the approved agenda.

Don Tolmie agreed to take the meeting minutes. Note that the minutes for the HIPPI-6400 specific meeting are separate.

3. Review Minutes of Previous Meeting

The minutes of the X3T11 HIPPI SWG / HNF - TC meeting of June 22, 1996, in Santa Fe were reviewed.

Roger Ronald of Raytheon E-Systems moved, and Jeff Young of Cray Research seconded, to approve the minutes as written. Passed unanimously.

4. Review of old action items

The action items from the June, 1996, meeting were reviewed for the current status.

1. Michael McGowen of Essential Communications - Generate a HIPPI switch MIB. (Carryover)
2. Michael McGowen of Essential Communications - Update HIPPI-AC to work with HIPPI-SC and its recent changes. (Carryover)
3. John Renwick of NetStar - Check status of ARP over HIPPI RFC with Phil Cameron of Essential and see if we can get the document moving. (Carryover)

4. Tim Clay of Methode Electronics - Investigate a good test pattern for HIPPI-Serial optical components. (Carryover)
5. Don Tolmie of Los Alamos - Draft an SD-3 Project Proposal for a revision of HIPPI-FP. (Carryover, waiting for HIPPI-6400-PH Scheduled Transfers to settle.)
6. Don Tolmie of Los Alamos - Revise HIPPI-FP with the inclusion of a ULP-id for HIPPI-MP. (Carryover, waiting for HIPPI-6400-PH Scheduled Transfers to settle.)
7. Everyone - Suggest changes to HIPPI-FP and bring in proposals for them. (On-going)
8. Don Tolmie of Los Alamos - Place a call for changes to HIPPI-FP on the web page containing HIPPI-FP. (Carryover)
9. Greg Chesson of Silicon Graphics - Check to see if Mark Kelley was going to continue work on the HIPPI end-point MIB. (Carryover)
10. Michael McGowen of Essential Communications - Check with Steve Poole to see if one or more HIPPI-FP ULP-id(s) are needed to support SCSI. (Done, and the answer is "no".)
11. Greg Chesson of SGI - Work with Bob Pearson of Essential, and John Renwick of NetStar, on ARP and IP over HIPPI-6400. (Carryover)
12. Greg Chesson of SGI - Send prior art concerning HP patent claim to the HP lawyers. (Done, see 14.3)

5. HIPPI-Serial

5.1 Status of Public Review

HIPPI-Serial Rev 2.6 is now in its first X3 Public Review which closes September 17, 1996. Don Tolmie has received editorial comments from the ANSI editor that are minimal and should not be hard to incorporate into the final document. Don created an ISO version of the document and is expecting comments from the ISO editor also. No other public review comments have been received to date.

5.2 Other optical

Arie van Praag of CERN had sent an e-mail to Don Tolmie suggesting that some new technology was available that used a single fiber for full-duplex transmission at 1.2 Gbit/s in each direction. Arie raised the question as to whether there was interest in including this technology in HIPPI-Serial. The group felt that, while interesting, it was too late and it was unlikely that vendors would be willing to change their present implementations, and new implementations would probably be built to be compatible with the existing specification.

6. IETF related items

6.1 IP over HIPPI, RFC 1374

John Renwick supplied the following report via e-mail on June 5: "The IESG has received a request to consider RFC 1374 (IP and ARP on HIPPI) as a Draft Standard. This has been reviewed in the IETF but is not the product of an IETF Working Group. The IESG plans to make a decision in the next few weeks, and solicits final comments on this action. Please send any comments to the iesg@ietf.org or ietf@ietf.org lists by June 24, 1996."

People were encouraged to respond to help the document along, and Roger Ronald of Raytheon E-Systems reported that he had followed through, but had not received a reply. Don Tolmie took an action item to check with John Renwick as to the current status.

6.2 ARP over HIPPI

Greg Chesson has an action item to work with Bob Pearson of Essential, and John Renwick of NetStar, on ARP and IP over HIPPI-6400. Nothing new was reported at this time.

6.3 HIPPI end-point MIB

Mark Kelley of Cray Research was implementing a MIB, but was not done as of the February '96 meeting. Greg Chesson has an action item to see if Mark Kelley was going to continue, and Jeff Young of Cray Research also agreed to check with Mark.

6.4 HIPPI switch MIB

Michael McGowen of Essential Communications has the action item to develop this document. Essential has an engineer working on it, with the PS-32 switch MIB as the basis. Roger Ronald suggested

also looking at the NetStar MIB, and noted that it is available from the NetStar ftp site.

6.5 HIPPI-6400 MIB

Von Welch of NCSA has drafted a HIPPI-6400 end-point MIB. It was distributed via the web page before this meeting. Von noted that the MIB was out of date now due to the HIPPI-6400-PH changes from the previous day. He asked that people review the MIB and send comments to him.

Roger Ronald of Raytheon E-Systems took an action item to talk to the E-Systems people working on their HIPPI-6400 switch about Von's MIB, and the E-Systems MIB plans, and report back to this group.

7. HIPPI-AC (Auto Configuration)

7.1 HIPPI-AC SD-3 project proposal status

Don Tolmie reported that this SD-3 project proposal has been approved and assigned number 1163-D.

7.2 HIPPI-AC document status

Michael McGowen fulfilled his action item and supplied Don Tolmie an electronic copy of the December 1994 version of the document, which Don put on our web page. Don questioned whether the lack of activity showed a lack of interest, and we should cancel the project. Bob Pearson of Essential Communications said that Essential will be putting it on their switch. We need feedback from other users as to whether it is needed or not. Art Beckman of Silicon Graphics said that interest was expressed at Supercomputing'95, and whatever we do for HIPPI-800 can be the prototype for HIPPI-6400.

8. HIPPI-SC (HIPPI-800 Switch Control)

8.1 Status of Public Review

Like HIPPI-Serial, HIPPI-SC Revised, Rev 3.1, is in its first X3 Public Review which closes September 17, 1996. Don Tolmie has received editorial comments from the ANSI editor that are minimal and should not be hard to incorporate into the final document. Don also created an ISO version of the document and is expecting comments from the ISO editor also. No other public review comments have been received to date.

9. HIPPI API (Application Programming Interface)

9.1 Status of current work

Steve Poole of Performance Group previously offered to work on an expanded API, both for a driver level, and at a higher level. Ken Morris of Essential Communications was to be the document editor with Steve Poole as the technical lead.

Don Tolmie reported that Steve Poole called on August 1, and said that he was dropping his support for the project. Steve had previously put out a call over e-mail for help, and support in the way of platforms to test with. The only response came from Maximum Strategy. Steve was already working with Essential and HP. Without more support Steve said that he could not do the project, and was dropping the standards project — whatever he came up with he would sell rather than standardize.

At the meeting, the feeling was that a common API was useful, and a final decision on dropping the project should be deferred to give people a chance to follow up on it. Francois Gaullier of HP will look into what HP can do with it. We will defer the decision for now.

10. HIPPI-ATM (Mapping to Asynchronous Transfer Mode)

10.1 Status of Public Review

Like HIPPI-Serial and HIPPI-SC, HIPPI-ATM Revised, Rev 1.7, is in its first X3 Public Review which closes September 17, 1996. Don Tolmie has received editorial comments from the ANSI editor that are minimal and should not be hard to incorporate into the final document. Don also created an ISO version of the document and is expecting comments from the ISO editor also. No other public review comments have been received to date.

11. HIPPI-MP (Multiple Path)

HIPPI-MP, which stands for "Multiple Path", is intended to provide higher speed transfers by striping, using current HIPPI interfaces and switches.

Don Tolmie, the document editor, reported that he is holding off on updating the original draft so that it may be aligned with the verbiage and techniques used for HIPPI-6400-PH Scheduled Transfers.

11.1 Status of SD-3 Project Proposal

The SD-3 Project Proposal was forwarded by X3T11 at the April meeting, and has been approved by X3 as project 1214-D.

12. HIPPI-FP (Framing Protocol)

12.1 Suggested changes for revisions

With work on HIPPI-MP proceeding, a ULP-id for -MP is needed in -FP. At the April meeting a vote to 'revise' HIPPI-FP passed, and a call for other changes was issued.

To date no other changes have been proposed. Don took an action item to post a request for changes on the web page containing HIPPI-FP. Don also has an action item to draft an SD-3 Project Proposal for a revision to HIPPI-FP, and is delaying to see what other changes are proposed as they will constitute the "Scope" portion of the SD-3 Project Proposal.

As reported in the April minutes, the proposal to remove the "Offset" parameter was dropped when it was discovered that Hewlett-Packard used the feature.

13. HIPPI-PH Reaffirmation

13.1 Status of X3T11 processing

Don Tolmie reported that Roger Cummings, X3T11 Chairman, has written to the X3 Secretariat, requesting that they take the appropriate actions to reaffirm ANSI X3.183-1991, (HIPPI-PH) without change.

14. HIPPI-6400

14.1 Interim Working Group report

Special working meetings on HIPPI-6400 were held July 10-11, at the SGI facility in Mountain View, CA, and August 5 in Honolulu at the same location as this meeting. Work on HIPPI-6400-PH and HIPPI-6400-SC progresses, and work on copper and fiber media for -PH is underway. See the separate minutes for these meetings for further details.

14.2 Status of SD-3 Project Proposals

The SD-3 Project Proposal for HIPPI-6400-PH was approved, and assigned project number 1213-D. The SC-3 Project Proposal for HIPPI-6400-SC should be

voted forward by X3T11 at their meeting the next day.

14.3 Status of Patents

Francois Gaullier of Hewlett-Packard supplied Don Tolmie with an HP letter stating that their G-Link patent, number 5,022,051, also applied to the 4b/5b coding, and HP would license use of it for a one-time fee of \$2500. The patent release will be forwarded to ANSI to apply towards HIPPI-6400-PH.

Greg Chesson of Silicon Graphics supplied Francois with examples of what he felt was prior art concerning the Scheduled Transfers used in HIPPI-6400-PH. Hewlett-Packard's patent 5,448,698, "Inter-Processor Communications System in Which Messages are Stored at Locations Specified by the Sender," may apply here. Francois forwarded the prior art material to the HP lawyers for evaluation — there is no resolution yet.

15. Other items

No other items were introduced.

16. Future meeting schedule

16.1 September 11-12, Albuquerque, NM

Wednesday, September 11 -
1 PM - 9 PM — HIPPI-6400

Thursday, September 12 -
9 AM - 3 PM — HIPPI-6400
3 PM - 6 PM — HIPPI-6400 limited distance optical

The location is on the Fred Harvey Best Western Hotel at the Albuquerque airport. Don Tolmie and the Los Alamos National Laboratory are the host. (See the meeting announcement on the web page at <http://www.cic-5.lanl.gov/~det/> for further details.)

16.2 October 7-8, 1996, St. Petersburg Beach, FL

During the X3T11 October plenary week, the following HIPPI meetings are scheduled:

Monday, October 7 -
9 AM - 9 PM — HIPPI-6400

Tuesday, October 8 -
9 AM - 10 AM — HNF Plenary
10 AM - 3 PM — HIPPI-TC General and -6400
3 PM - 7 PM — HIPPI-6400 Optical (pick a ferrule)
7 PM - 9 PM — HIPPI-6400 Copper (tentative)

The location is the Tradewinds Hotel in St. Petersburg Beach, FL. Charles Brill and AMP are the host. (See the meeting announcement on the web page at <http://www.cic-5.lanl.gov/~det/> for further details.)

17.3 Further out meetings

The schedule for the rest of 1996 is listed below. The Plenary meetings include HIPPI-6400, an HNF plenary, and all other HIPPI items. The Interim meetings cover just HIPPI-6400 items.

1996 -

Nov 6-7	Interim	Phoenix, AZ	Lockheed
Dec 2-3	Plenary	Minneapolis, MN	IBM

The following 1997 X3T11 plenary week dates are firm, but some locations and hosts are still fluid.

1997 -

Jan 8-9	Interim	Phoenix, AZ	Lockheed
Feb 3-4	Plenary	San Jose, CA	Sun
Mar 5-6	Interim	??	Berg
Apr 7-8	Plenary	Palm Springs, CA	Brocade
Jun 9-10	Plenary	Seattle, WA	Boeing
Aug 4-5	Plenary	Honolulu, HI	Hitachi
Oct 6-7	Plenary	Tucson, AZ	FSI
Dec 1-2	Plenary	Orlando, FL	DPT

The 1998 schedule is less firm, but here is what is currently being considered by X3T11 for the plenary meetings. Question marks note the ones that are still in question. Hopefully HIPPI-6400 will be far enough along that we will not need interim working meetings.

1998 -

Feb 9-10	Plenary	San Diego (?)	Sun
Apr 20-21	Plenary	Palm Springs, CA	Brocade
Jun 8-9	Plenary	St. Petersburg Beach, FL	AMP
Aug 10-11	Plenary	??	??
Oct 5-6	Plenary	Tucson, AZ (?)	FSI (?)
Dec 7-8	Plenary	Orlando, FL	DPT

18. Review action items

1. Michael McGowen of Essential Communications - Generate a HIPPI switch MIB.
2. Michael McGowen of Essential Communications - Update HIPPI-AC to work with HIPPI-SC and its recent changes.

3. John Renwick of NetStar - Check status of ARP over HIPPI RFC with Phil Cameron of Essential and see if we can get the document moving.
4. Tim Clay of Methode Electronics - Investigate a good test pattern for HIPPI-Serial optical components.
5. Don Tolmie of Los Alamos - Draft an SD-3 Project Proposal for a revision of HIPPI-FP.
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7. Everyone - Suggest changes to HIPPI-FP and bring in proposals for them.
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9. Greg Chesson of Silicon Graphics, and Jeff Young of Cray Research - Check on the status of the HIPPI end-point MIB, and if Mark Kelley is going to continue work on it.
10. Greg Chesson of SGI - Work with Bob Pearson of Essential, and John Renwick of NetStar, on ARP and IP over HIPPI-6400.
11. Don Tolmie of Los Alamos - Check with John Renwick of NetStar as to the status of RFC 1374.
12. Roger Ronald of Raytheon E-Systems - Talk to the E-Systems people working on their HIPPI-6400 switch about Von's MIB and E-Systems MIB plans, and report back to this group.
13. Von Welch of NCSA - Update the HIPPI-6400 MIB to reflect the changes made to HIPPI-6400-PH at the Honolulu meeting.
14. Everyone - Review the HIPPI-6400 MIB.

19. Continue work on HIPPI-6400

We were able to finish the main agenda by 10:45 am, so continued on HIPPI-6400 items until 3 PM. See the HIPPI-6400 minutes for details.

A HIPPI-6400 meeting addressing fiber media followed this meeting, running from 3 PM - 6 PM.

A HIPPI-6400 meeting addressing copper media followed that meeting, running from 6 PM - 8 PM.

Notes from X3T11 Plenary following the HNF-TC

The X3T11 Plenary met the next day, i.e., August 7. HIPPI related items are reported here for your convenience, the definitive record is the X3T11 minutes.

By a vote of 45 for, 0 opposed, and 26 absent, X3T11 forwarded the SD-3 Project Proposal for HIPPI-6400-SC to OMC and X3 for further processing.

OMC may not have reviewed the three documents out for their first X3 public review, i.e., HIPPI-ATM, HIPPI-SC, and HIPPI-Serial. It is unknown if OMC will be able to pass on them before the public review closes on September 17, and if not what this will do to their processing. Previously, forwarded document went through the process serially, i.e., OMC and then first public review. Now the processing is done in parallel.

Reaffirmation of X3.183-1991, HIPPI-PH, has been approved by OMC, and the X3 letter ballot closes September 9.

The revision to HIPPI-SC, in 1st public review, was also submitted to ISO. Unfortunately, ISO was still processing the original HIPPI-SC document - in its last approvals before becoming an International Standard. They ruled, and rightly so, that the changes between the original and the revision were significant, and they are re-starting the processing at the lowest level. This means that they will run a Committee Draft (CD) ballot first, then a Draft International Standard (DIS) ballot if it passes the CD ballot. Once it passes the DIS ballot, it becomes an International Standard. We had hoped that they would substitute the revised HIPPI-SC directly into the DIS path, but it didn't happen.

Attendance

Bob Willard	Digital Equipment Corp
Bob Pearson	Essential Communications
Perr Cardestam	Gigalabs
Francois Gaullier	Hewlett-Packard
Dru Popper-Lopez	HNF
Henry Brandt	IBM
James Hoffman	Los Alamos National Lab
Don Tolmie	Los Alamos National Lab
Von Welch	NCSA
Craig Davidson	Raytheon E-Systems
Roger Ronald	Raytheon E-Systems
Art Beckman	Silicon Graphics
Greg Chesson	Silicon Graphics
Bob Newhall	Silicon Graphics
Max Lee	Silicon Graphic - Korea